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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,228	10/13/2004	Nathan Altman	28569	6702
67801 7590 07/14/2009 MARTIN D. MOYNIHAN d/b/a PRTSI, INC. P.O. BOX 16446 ARLINGTON, VA 22215				
EXAMINER				
PHAM, TAMMY T				
ART UNIT		PAPER NUMBER		
2629				
MAIL DATE		DELIVERY MODE		
07/14/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/510,228

**Applicant(s)**

ALTMAN ET AL.

**Examiner**

TAMMY PHAM

**Art Unit**

2629

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-102 is/are pending in the application.
- 4a) Of the above claim(s) 2-35, 40-46, 50-75, 78, 79 and 83-102 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 36-39, 47-49, 76, 77 and 80-82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5/28/09: 5/15/09: 4/5/09
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11 May 2009 has been entered.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 5 April 2009; 15 May 2009; and 28 May 2009 was filed after the mailing date. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Response to Amendment***

3. Independent claims 1, 76 have been amended. Claims 2-35, 40-46, 50-75, 78-79, 83-102 have been withdrawn. Claims 1, 36-39, 47-49, 76-77, 80-82 are considered below.

***Response to Arguments***

4. Applicant's arguments filed 11 May 2009 have been fully considered but are moot in view of the new grounds of rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 36-38, 47-49, 76-77, 80-81, are rejected under 35 U.S.C. 103(a) as being unpatentable over KITADA et al. (U.S. Patent No.: 6,798,403 B2) in view of Puma et al. (U.S. Patent No.: 5,339,259).
6. **In regards to independent claim 1**, KITADA teaches of a position detection system (Fig. 2a, item 300) for use in association with computing applications (Fig. 2a, item PC), the system (Fig. 2a, item 300) comprising:
  7. a positional element (Fig. 2a, item 101) for attaining a position and comprising a first emitter (Fig. 2a, item 301) for emitting an ultrasonic waveform modulated to be decodable to fix the position (column 3, lines 20-25), and
  8. a detector arrangement (Fig. 2a, items 104a-b) for detecting the waveform in a manner permitting fixing of the attained position, the detector arrangement (Fig. 2a, items 104a-b) further outputting the waveform for computation, in a manner retentive of the positional information (column 3, lines 19-25).
9. Kitada fails to teach of a continuous waveform including a signal comprising positional information modulated thereon, such that the continuous ultrasonic waveform is decodable to extract the positional information; and

10. a detector arrangement for detecting the continuous ultrasonic waveform comprising the modulation.

11. Puma teaches of a continuous waveform including a signal comprising positional information modulated thereon, such that the continuous ultrasonic waveform is decodable to extract the positional information; and

12. a detector arrangement for detecting the continuous ultrasonic waveform comprising the modulation (Fig. 2).

13. It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the concept of having a continuous ultrasonic waveform containing positional information as taught by Puma, with the position detection system of Kitada. Not only is this combination is well known in the art to utilize continuous ultrasonic waveform to detect position, but there are benefits to using this type of waveform such as interference reduction (Puma, column 1, lines 29-33).

14. **In regards to independent claim 76**, KITADA teaches of a position detection system (Fig. 2a, item 300) of a computing device (Fig. 2a, item PC), the system (Fig. 2a, item 300) comprising:

15. a positional element (Fig. 2a, item 101) for attaining a position and comprising an ultrasonic waveform emitter (Fig. 2a, item 301) for emitting an ultrasonic waveform modulated to be decodable to fix the attained position,

16. a detector arrangement (Fig. 2a, item 204a-b) for detecting the waveform in a manner permitting fixing of the position, and
17. a signal decoder (Fig. 2a, item 200) for receiving the waveform from the arrangement and decoding the attained position from the positional information, the positional information being obtained from a demodulation of the waveform (column 3, lines 19-25).
18. Kitada fails to teach of a continuous waveform including a signal comprising positional information modulated thereon, such that the continuous ultrasonic waveform is decodable to extract the positional information.
19. Puma teaches of a continuous waveform including a signal comprising positional information modulated thereon, such that the continuous ultrasonic waveform is decodable to extract the positional information (Fig. 2).
20. It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the concept of having a continuous ultrasonic waveform contain positional information as taught by Puma, with the position detection system of Kitada. Not only is this combination is well known in the art to utilize continuous ultrasonic waveform to detect position, but there are benefits to using this type of waveform such as interference reduction (Puma, column 1, lines 29-33).

21. **In regards to claim 36**, KITADA teaches that the system (Fig. 2a, item 300) further comprises a decoding unit (Fig. 2a, item 200) for carrying out the computation to decode the waveform and indicate the position (column 3, lines 19-25).
22. **In regards to claim 37**, KITADA teaches that the decoding unit (Fig. 2a, item 200) comprises a maximum likelihood detector (Fig. 2a, item 200) for carrying out the decoding by finding a most likely distance (column 3, lines 10-13).
23. **In regards to claim 38**, KITADA teaches that the maximum likelihood detector (Fig. 2a, item 200) comprises a channel model for modeling passage of the waveform from the positional element (Fig. 2a, item 101) to the waveform decoding unit (Fig. 2a, item 200), thereby to provide a reference signal against which to identify the most likely distance (column 3, lines 35-40).
24. **In regards to claim 47**, KITADA teaches that the waveform decoding unit (Fig. 2a, item 200) is provided as a client program for installation in a computing device (Fig. 2a, item 300).
25. **In regards to claim 48**, KITADA teaches that the waveform decoding unit (Fig. 2a, item 200) is provided as a client program for installation in an operating system of a computing device (Fig. 2a, item PC).

26. **In regards to claim 49**, KITADA teaches that the waveform decoding unit (Fig. 2a, item 200) is integrated with the detector arrangement (Fig. 2a, item 204a-b).

27. **In regards to claim 77**, KITADA teaches that the detector arrangement (Fig. 2a, item 204a-b) and the signal decoder (Fig. 2a, item 200) are connected via an analog link.

28. **In regards to claim 80**, KITADA teaches that the detection arrangement (Fig. 2a, items 204a-b) comprises a plurality of signal detectors (Fig. 2a, items 204a-b) arranged at different locations each separately to detect the waveform, thereby to provide the position fixing as differential information between the detected signals (Fig. 2a).

29. **In regards to claim 81**, KITADA teaches that the signal decoder (Fig. 2a, item 200) comprises at least one reference signal constructed using a model of the system and a maximum likelihood detector (Fig. 2a, item 200) for determining a most likely position based on the reference signal (column 3, lines 35-40).

30. Claims 39, 82, are rejected under 35 U.S.C. 103(a) as being unpatentable over KITADA et al. (U.S. Patent No.; 6,798,403 B2) in view of Puma et al. (U.S. Patent No.; 5,339,259) and XU (U.S. Publication No.; 2002/0176577 A1).

31. **In regards to claims 39, 82**, KITADA and Puma fails to teach that the detector is followed by a correlator for confirming the most likely distance.

32. XU teaches that the detector is followed by a correlator for confirming the most likely distance (section [0028]).



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33. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include a correlator for confirmation as taught by XU with the detector of KITADA and the continuous waveform of Puma, in order to authenticate the information being detected, such as the position or a signature (XU, section [0001]).

*Conclusion*

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammy Pham whose telephone number is (571) 272-7773. The examiner can normally be reached on 8:00-5:30 (Mon-Fri).
35. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
36. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TP  
6 July 2009

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/Tammy Pham/  
Examiner, Art Unit 2629

/Sumati Lefkowitz/  
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